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| EXAMINER |
|---|
| WU, YICUN |

| ART UNIT | PAPER NUMBER |
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| 2165 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | Application No. | Applicant(s) |
|---|---|---|
| | 10/765,348 | CSERI ET AL. |
| **Office Action Summary** | Examiner | Art Unit | |
| | Yicun Wu | 2165 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _09 January 2008_.

2a)☒ This action is **FINAL.**     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-41_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-41_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

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## III. DETAILED ACTION

1.      Claims 1-41 are presented for examination.

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### Examiner's Remarks

2.      Applicant's argues Cheng does not focus on "optimizing accesses to a database" .

        In response to the applicants' arguments, Examiner point out that applicant did not claim "optimizing accesses to a database".   Did applicant focused on "optimizing accesses to a database" ?

        Examiner believe Cheng improved and optimized accesses to a database because "processing of such queries is certainly beyond the capabilities of most information retrieval systems and search engines based on inverted indices and providing support to B+ tree index structures in these systems is very expensive. Therefore, there is a further need for an application that uses existing B+ tree index structures, already implemented in the database system to support indexes for structured documents with rich data types." (col. 3, lines 1-20)

        In response to the applicants' arguments regarding "obviousness", and "motivation" to combine the cited references, the arguments have been fully considered but are not deemed persuasive, because the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re

Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21

USPQ2d 1941 (Fed. Cir. 1992).

In this case, both cited references teach inventions that are in the same field of endeavor.

Both teaches teaching managing database organized with tree structure. In this case, the primary

reference, Cheng, teaches every limitation of the independent claims, with the exception of

"designating a mode from a plurality of modes". The secondary reference, Richard, teaches this

limitation, and therefore, It would have been obvious to a person having ordinary skill in the art

at the time the invention was made to have modified Cheng et al. by the teaching of Richard et al.

to include designating a mode from a plurality of modes with the motivation to optimizing

accesses to a database organized into trees  as taught by Richard et al. (col. 4, lines 65-67).

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## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.      Claims 40-41 are rejected under 35 U.S.C. 102(e) as being anticipated over <u>Cheng et al</u>. (U.S. Patent No. 6,366,934).

As to claim 40, <u>Cheng et al</u>. discloses a method to produce a hierarchical data steam from a query comprising:

receiving the query (col. 23, lines 56-60 and col. 24, lines 7-40) and (col. 21, lines 7-9), the query including information including metadata column information (i.e. tagname. (col. 21, lines 7-9) and fig. 10 and col. 23, lines 56-60 and col. 24, lines 7-40) for generating a universal table (fig. 10 and col. 23, lines 56-60 and col. 24, lines 7-40) and (col. 21, lines 7-9) that includes the metadata column information (fig. 10 and col. 23, lines 56-60 and col. 24, lines 7-40) and (col. 21, lines 7-9); me

generating a rowset in response to the query  (col. 23, lines 56-60 and col. 24, lines 7-40); and

processing the rowset to produce the data stream defined by the universal table (col. 23, lines 56-60 and col. 24, lines 7-40),

wherein the query comprises information expressly defining nesting of the data stream

and information expressly defining column names for the data stream (col. 23, lines 56-60 and

col. 24, lines 7-40).

As to claim 41, Cheng et al. discloses a method 1, wherein the query further comprises

one or more of element tags and parent tags (col. 24, lines 7-40).

## *Claim Rejections - 35 USC § 103*

4.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action: ·

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
> 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that
> the subject matter as a whole would have been obvious at the time the invention was made to a person having
> ordinary skill in the art to which the subject matter pertains.  Patentability shall not be negatived by the manner in
> which the invention was made.

Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al.

(U.S. Patent No. 6,366,934) in view of Richard et al. (U.S. Patent No. 6,484,160).

As to claims 1, 9, 11, 13, 26, 32, 34 and 37, Cheng et al. discloses a computerized system

comprising:

a database server (col. 3, lines 34-35) operable for receiving a query (i.e. querying) (col. 3,

lines 48-60) and col. 23, lines 1-35), the query including mode information (col. 23, lines 56-60

and col. 24, lines 7-40) that specifies (col. 21, lines 7-9), within the query itself (col. 21, lines 7-

9), a hierarchical data stream organization (i.e. structure search . col. 24, lines 35-40 and Col. 15,

lines 46-48), and generating a rowset in response to the query (i.e. retrieving structured

documents) (col. 3, lines 48-60); and

a rowset processor (col. 3, lines 48-60), operable for receiving and processing the mode

information (col. 23, lines 56-60 and col. 24, lines 7-40) of the query and the rowset, to generate

a data stream organized (i.e. retrieving structured documents) (col. 3, lines 48-60) according to

the hierarchical data stream organization (i.e. document tree structure. Col. 15, lines 46-48)

specified by the mode information (col. 21, lines 7-9);

Cheng et al. does not teach designating a mode from a plurality of modes.

Richard et al. teaches designating a mode from a plurality of modes (i.e. scope and filter

arguments. Col. 5, lines 3-4).

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Cheng et al. to include designating a mode from a

plurality of modes.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Cheng et al. by the teaching of Richard et al. to include

designating a mode from a plurality of modes with the motivation to optimizing accesses to a

database organized into trees as taught by Richard et al. (col. 4, lines 65-67).

As to claims 2 and 38, Cheng et al. as modified teaches a computerized system, wherein

the query is a structured query language (SQL) query (Cheng et al. col. 6, lines 48-57)..

As to claims 3 and 21, <u>Cheng et al.</u> as modified teaches a computerized system, wherein the query is a flat query (<u>Cheng et al.</u> col. 6, lines 48-57).

As to claim 4, <u>Cheng et al.</u> as modified teaches a computerized system, wherein the hierarchical data stream is an eXtensible Markup Language (XML) data stream (i.e. XML contents and attribute values) (<u>Cheng et al.</u> col. 21, lines 24-27).

As to claim 5, <u>Cheng et al.</u> as modified teaches a computerized system wherein

the mode information comprises one or more table names (i.e. table. col. 23, lines 55-60).

As to claims 6 and 39, <u>Cheng et al.</u> as modified teaches a computerized system, wherein the mode information comprises an ordered list of one or more tables (col. 23, lines 55-60 and col. 24, lines 7-40).

As to claims 7 and 33, <u>Cheng et al.</u> as modified teaches a computerized system, wherein the mode information comprises

explicitly defining a nesting of requested data and a naming of requested columns in a hierarchical data stream (col. 23, lines 65-67 and col. 24, lines 7-40) .

As to claim 8, <u>Cheng et al.</u> as modified teaches a computerized system, wherein the rowset processor transforms the rowset into a universal table (i.e. a buffer) (<u>Cheng et al.</u> col. 20, lines 54-55) subsequently processed to generate a hierarchical data stream (col. 24, lines 7-40).

As to claims 10, 12 and 25 , Cheng et al. as modified teaches a computerized system, comprising:

a client coupled to the rowset processor, the client is capable of receiving the hierarchical data stream (fig. 1).

As to claim 16, Cheng et al. as modified teaches a computerized system, wherein the query includes a clause directing the rowset processor to return the XML data stream (col. 23, lines 65-67 and col. 24, lines 7-40).

As to claim 18, Cheng et al. as modified teaches a computerized system wherein

the mode information defining the XML data stream organization is primary-foreign key information included in the query (col. 13, lines 1525).

As to claim 19, Cheng et al. as modified teaches a computerized system wherein

mode information defining the XML data stream organization is implied in the ordering of a number of tables included in the query (i.e. formulate relational operations on the tables) (Cheng et al. col. 6, lines 6165) and (Cheng et al. col. 4, lines 1-5).

As to claim 20, Cheng et al. as modified teaches a computerized system wherein

the information defining the XML data stream is explicitly provided in the query (col. 6, lines 61-65) and (Cheng et al. col. 21, lines 2-19).

As to claim 22, <u>Cheng et al.</u> as modified teaches a computerized system further comprising:

wherein the query is a nested query (i.e. structural search) (col. 4, lines 1-5).

As to claim 23, <u>Cheng et al.</u> as modified teaches a computerized system wherein the rowset processor is a subsystem of the database system (col. 3, lines 34-47).

As to claim 24, <u>Cheng et al.</u> as modified teaches a computerized system wherein the rowset processor is an add-on to the database system. (i.e. extender. col. 3, lines 34-47).

As to claim 27, <u>Cheng et al.</u> as modified teaches a computerized system wherein transforming the rowset into an XML element comprises:

mapping each non-null column value of the rowset to an attribute of the XML element (<u>Cheng et al.</u> col. 21 lines 49 to col. 22,lines 7).

As to claim 28, <u>Cheng et al.</u> as modified teaches a method of generating an XML data stream from a query, the method comprising:

creating a query (i.e. querying) (col. 3, lines 48-60) and col. 23, lines 1-35), the query including mode information that specifies (col. 23, lines 56-60 and col. 24, lines 7-40), within the query itself (col. 23, lines 56-60 and col. 24, lines 7-40), an eXtensible Markup Language (XML)

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data stream organization (i.e. structure search . col. 24, lines 35-40 and Col. 15, lines 46-48) by a

primary foreign key relationship (Cheng et al. col. 13, lines 15-25);

transmitting the query to a database server to generate a rowset (col. 3, lines 48-60);

transforming the rowset into a nested XML tree by using the primary-foreign key relationship to

determine (Cheng et al. col. 13, lines 15-25)nesting in the nested XML tree (col. 23, lines 56-60

and col. 24, lines 7-40); and

processing the nested XML tree to return the XML data stream, organized according to

the determined nesting in response to the query (col. 23, lines 56-60 and col. 24, lines 7-40);

Cheng et al. does not teach designating a mode from a plurality of modes.

Richard et al. teaches designating a mode from a plurality of modes (i.e. scope and filter

arguments. Col. 5, lines 3-4).

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Cheng et al. to include designating a mode from a

plurality of modes.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Cheng et al. by the teaching of Richard et al. to include

designating a mode from a plurality of modes with the motivation to optimizing accesses to a

database organized into trees as taught by Richard et al. (col. 4, lines 65-67).


As to claim 29, Cheng et al. as modified teaches a method of generating a method,

wherein creating a query containing a primary foreign key relationship comprises:

ordering tables in the query to produce an organization of the XML data stream for a one

to many relationship (col. 23, lines 56-60 and col. 24, lines 7-40).


As to claim 30, <u>Cheng et al</u>. as modified teaches a method wherein transforming the

rowset into a nested XML tree by using the primary-foreign key relationship included in the

query to determine nesting in the nested XML tree comprises:

forming a nesting schema from the nested XML tree (col. 23, lines 56-60 and col. 24,

lines 7-40); and

utilizing the nesting schema to transform the rowset into a nested XML tree (col. 23, lines

56-60 and col. 24, lines 7-40).


As to claim 31, <u>Cheng et al</u>. as modified teaches a method wherein processing the nested

XML tree to return the XML data stream in response to the query comprises:

representing each table listed in the query that has at least one column in a query result

as an XML element.


As to claim 35, <u>Cheng et al</u>. as modified teaches a computer readable medium, wherein

processing the rowset to return the XML data stream in response to the query comprises:

transforming the rowset into a universal table (col. 20, lines 54-55);; and

processing the universal table to produce the XML data stream  (col. 20, lines 54-55);.

As to claim 36, <u>Cheng et al.</u> as modified teaches a computer readable medium, wherein transforming the rowset into a universal table comprises:

executing a union over all selections in the query (i.e. union(R1 ,r2)(<u>Cheng et al.</u> col. 17, lines 41-61)..

## *Points of contact*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHACE CHRISTIAN can be reached on 571-272-4190. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu
Patent Examiner
Technology Center 2100